Gefen tv

Ethernet Over Coax

GTV-ETH-2-COAX

User Manual

www.gefentv.com

ASKING FOR ASSISTANCE

Technical Support:

Telephone	(818) 772-9100
	(800) 545-6900
Fax	(818) 772-9120

Technical Support Hours:
8:00 AM to 5:00 PM Monday thru Friday PST

Write To:

Gefen Inc.
c/o Customer Service
20600 Nordhoff St
Chatsworth, CA 91311

www.gefentv.com
support@gefentv.com

Notice

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INTRODUCTION

Congratulations on your purchase of the GefenTV Ethernet Over Coax. Your complete satisfaction is very important to us.

Gefen TV

Gefen TV is a unique product line catering to the growing needs for innovative home theater solutions. We specialize in total integration for your home theater, while also focusing on going above and beyond customer expectations to ensure you get the most from your hardware. We invite you to explore our distinct product line and hope you find your solutions. Don't see what you are looking for here? Please call us so we can better assist you with your particular needs.

The Gefen Ethernet Over Coax

The Gefen TV Ethernet Over Coaxial Sender and Receiver units send RJ-45 Ethernet over RG-59 or RG-6 Coax cable at a distance of up to 300m/1000 feet.

Ideal for legacy installations where Coaxial cable is already permanently in place, these devices breathe new life into remote network extensions where re-wiring is not possible.

How It Works

Connect your existing Ethernet network cables to the Ethernet Over Coaxial Sender unit, then plug in your Coaxial cable to the Coaxial jack on the Sender unit. At the other end of your Coaxial cable run, attach the Ethernet Over Coax Receiver unit and your network cables. Power-cycle your equipment. You will now receive Ethernet network signals at the end of your cable run as if you had cabled the run with Ethernet cables.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE GEFENTV ETHERNET OVER COAX

- This device passes all 10/100BASE-T Ethernet network protocols (TCP/IP, NETBUEI, Microsoft Networking, etc.) at speeds of up to 200Mbps (Full duplex fast Ethernet).
- All devices connected to the sending and receiving nodes must be on the same subnet with unique IP addresses to communicate properly.
- Multiple receiving nodes can be used on the same coaxial cable system to extend the network to multiple locations.

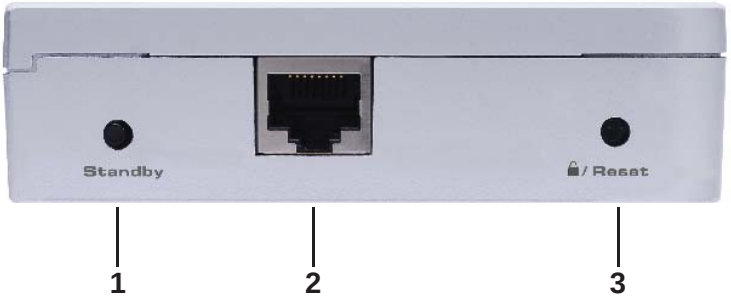
Features

- Supports up to 200 Mbps data transmission rate
- Extension of up to 1000 feet (300 meters)
- Web configuration for easy maintenance
- Features include IGMP multicast, VLAN, and QOS packet management
- 3DES 168 bits encryption used for secure operation
- Four RJ-45 Ethernet ports

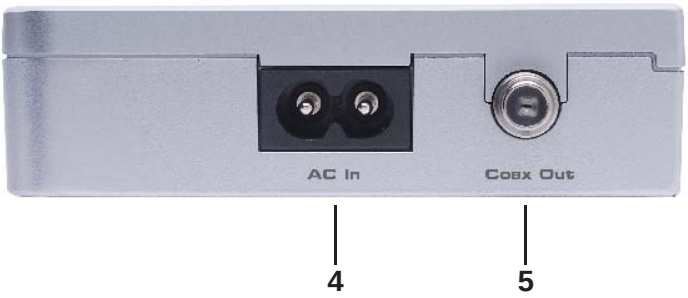
Package Includes

(1) GefenTV Ethernet Over Coax sender
(1) GefenTV Ethernet Over Coax receiver
(2) 3 foot Ethernet Patch Cable
(2) Power Adapter Cables

Front Panel



Back Panel



Top Panel

SENDER PANEL DESCRIPTIONS

1. **Standby Button**

   Pressing this will put the sending unit in standby mode. The unit will not transfer any information to the receiving unit in this mode. To release standby mode, simply press the button again.

2. **Ethernet Input Port**

   Connects to the Ethernet source (i.e a router, computer, or Internet connection) via a standard network cable.

3. **Security/Reset Button**

   Pressing this button for 2 seconds will activate the Automatic Security Configuration (please see page 17). Pressing this button for more than 10 seconds will perform a factory reset.

4. **AC Power Cable Input**

   Input for the supplied AC power cable.

5. **Coaxial Output**

   Coaxial output to link the sending and receiving units together. This connector will support RG-6 and RG-59 cables.

6. **LAN LED**

   This LED will activate when a connection to a valid Ethernet source is established. It will blink when activity is detected to signify that data is actively being trafficked to and from the receiver.

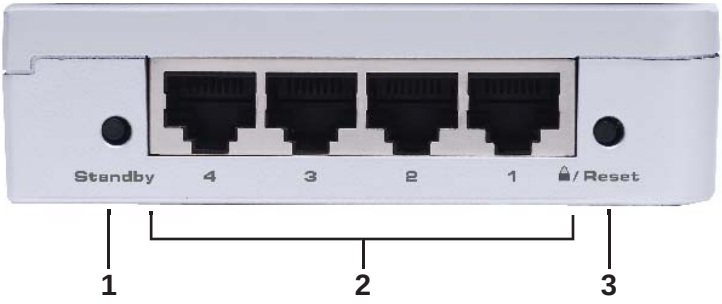
7. **Link LED**

   This LED will activate once a link has been established between the sending and receiving units. It will blink when activity is detected to signify that data is actively being trafficked.

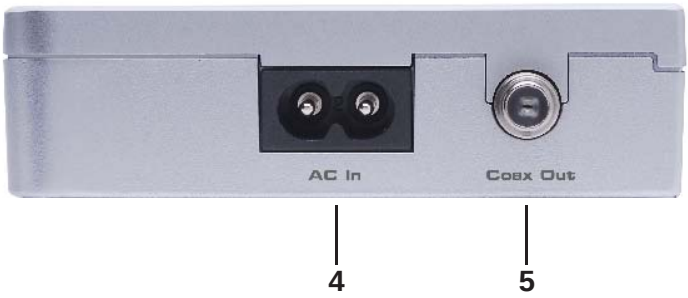
8. **Power LED**

   This LED will activate once the included power supply is properly connected.

Front Panel



Back Panel



Top Panel

RECEIVER PANEL DESCRIPTIONS

1. **Standby Button**

   Pressing this will put the receiving unit in standby mode. The unit will not transfer any information to the sending unit in this mode. To release standby mode, simply press the button again.

2. **Ethernet Input Port (1 through 4)**

   Connects to an Ethernet device (i.e a computer or gaming system) via a standard network cable. 4 ports are available for 4 separate devices.

3. **Security/Reset Button**

   Pressing this button for 2 seconds will activate the Automatic Security Configuration (please see page 17). Pressing this button for more than 10 seconds will perform a factory reset.

4. **AC Power Cable Input**

   Input for the supplied AC power cable.

5. **Coaxial Output**

   Coaxial output to link the sending and receiving units together. This connector will support RG-6 and RG-59 cables.

6. **LAN 1 LED**

   This LED will activate when a connection from a valid Ethernet device to Ethernet port 1 is established. It will blink when activity is detected to signify that data is actively being trafficked to and from this port.

7. **LAN 2 LED**

   This LED will activate when a connection from a valid Ethernet device to Ethernet port 2 is established. It will blink when activity is detected to signify that data is actively being trafficked to and from this port.

8. **LAN 3 LED**

   This LED will activate when a connection from a valid Ethernet device to Ethernet port 3 is established. It will blink when activity is detected to signify that data is actively being trafficked to and from this port.

9. **LAN 4 LED**

   This LED will activate when a connection from a valid Ethernet device to Ethernet port 4 is established. It will blink when activity is detected to signify that data is actively being trafficked to and from this port.

10. **Link LED**

    This LED will activate once a link has been established between the sending and receiving units. It will blink when activity is detected to signify that data is actively being trafficked to and from the sender.

11. **Power LED**

    This LED will activate once the included power supply is properly connected.

How to Connect the GefenTV Ethernet Over Coax

Installation of the GefenTV Configuration Assistant

1. Insert the included installation CD-ROM into your computer that will be used to configure the GefenTV Ethernet Over Coax.

2. The auto run will begin the installation process. If auto run does not start or auto run has been disabled, please navigate to “X:\” drive (where X is the drive letter or your CD-ROM drive) and run the “autorun.exe” file.

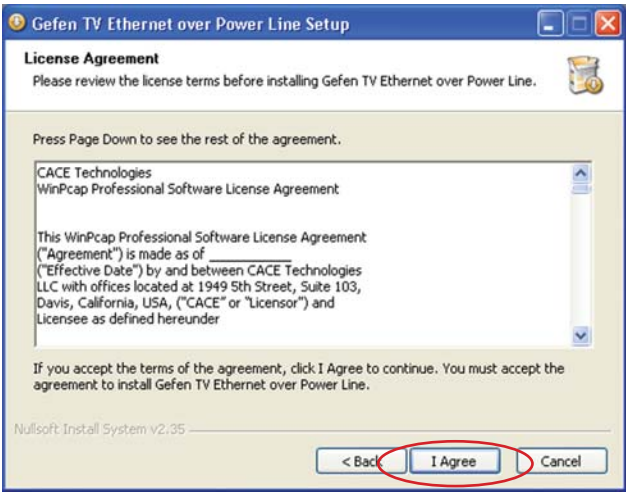
3. Click on the Install Utility option.

4. Choose your preferred language and click on the OK button to continue. (Currently English is the only selectable language)

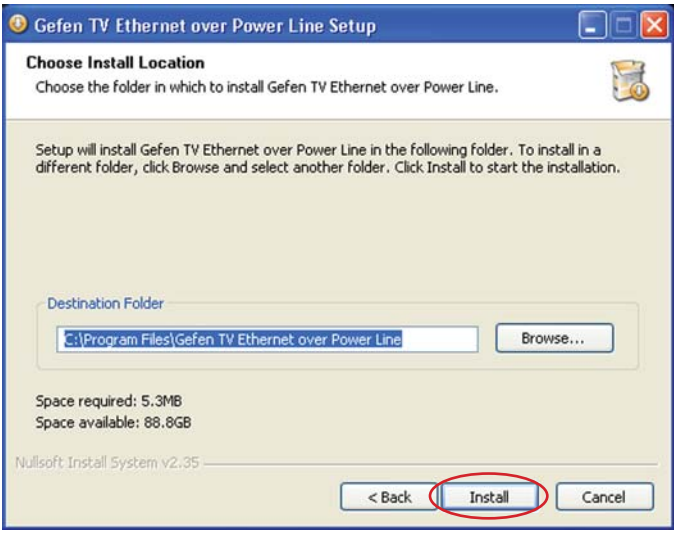
5. Close all other applications and press the Next button to continue.

Gefen TV Ethernet over Coax Setup
Gefen TV
Welcome to the Gefen TV Ethernet over Coax Setup Wizard
This wizard will guide you through the installation of Gefen TV Ethernet over Coax.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
ATTENTION: To install the software, you must have administrator user privileges. If you do not have such privileges, please contact your systems administrator.
Click Next to continue.
Next >
Cancel

6. Please read the license agreement and click on the I Agree button to continue.


Gefen TV Ethernet over Power Line Setup
License Agreement
Please review the license terms before installing Gefen TV Ethernet over Power Line.
Press Page Down to see the rest of the agreement.
CACE Technologies
WinPcap Professional Software License Agreement
This WinPcap Professional Software License Agreement ("Agreement") is made as of _____ ("Effective Date") by and between CACE Technologies LLC with offices located at 1949 5th Street, Suite 103, Davis, California, USA, ("CACE" or "Licensor") and Licensee as defined hereunder
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Gefen TV Ethernet over Power Line.
Nullsoft Install System v2.35
< Back
I Agree
Cancel

7. Please choose the program installation destination. The default location is “C:\ Program Files\Gefen TV Ethernet Over Coax”. To set your own destination, click on the browse button and navigate to your preferred location. Click the install button to continue.


Gefen TV Ethernet over Power Line Setup
Choose Install Location
Choose the folder in which to install Gefen TV Ethernet over Power Line.
Setup will install Gefen TV Ethernet over Power Line in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files\Gefen TV Ethernet over Power Line
Browse...
Space required: 5.3MB
Space available: 88.8GB
Nullsoft Install System v2.35
< Back
Install
Cancel

8. The program files will copy to the specified location in the previous step. When the process is complete, you will see the window below. Click on the finish button to complete the software installation process.

Gefen TV Ethernet over Power Line Setup
Gefen tv
Completing the Gefen TV Ethernet over Power Line Setup Wizard
Gefen TV Ethernet over Power Line has been installed on your computer.
Click Finish to close this wizard.
< Back
Finish
Cancel

CONNECTING THE GEFENTV ETHERNET OVER COAX

1. Connect the source (i.e. computer, router, switch) to the GefenTV Ethernet Over Coax sender unit using the supplied CAT-5e cable.

2. Connect the GefenTV Ethernet Over Coax sender unit to a coaxial (RG-59 or RG-6) cable system. Please ensure that the connected coaxial cable system has an available endpoint, either directly or through a coaxial cable splitter.

3. Connect the GefenTV Ethernet Over Coax receiver unit to the coaxial cable system.

4. Connect the Ethernet devices (i.e. computer, game system, set-top box) to the GefenTV Ethernet Over Coax receiver unit. Up to four devices are supported.

5. Connect the included power cables to both the GefenTV Ethernet Over Coax sending and receiving units.

POWER LED: Once the power cable is connected, the Power LED should become active with a solid blue color.

LAN LED: When a valid Ethernet connection is detected on the sending and receiving Ethernet jacks, their corresponding LED's will become active and should emit a solid blue color.

LINK LED: The Link LED should be flashing red on initial boot up. Once a link between the sending and receiving units has been established, it will emit a solid blue color on both units.

IMPORTANT: The Link LED must be emitting a sold blue color before configuration can continue. If this LED continues to flash red on both the sending and receiving units, it is possible that they are not physically connected within the current coaxial cable system. Please confirm that both the sending and receiving units are attached to the same coaxial cable system.

Once both the sending and receiving units are linked and powered, basic configuration can proceed. This section of the manual refers to the sending unit as the LOCAL NODE, and the receiving unit as the REMOTE NODE.

NOTE: The following steps are for manual configuration of the nodes for a basic secure network. These steps are optional, as the nodes will function with their default settings. However, for security and performance purposes, it is recommended that the following steps be performed. Automatic configuration is also possible using the Automatic Security Configuration feature on page 17 in lieu of the procedure outlined in this section.

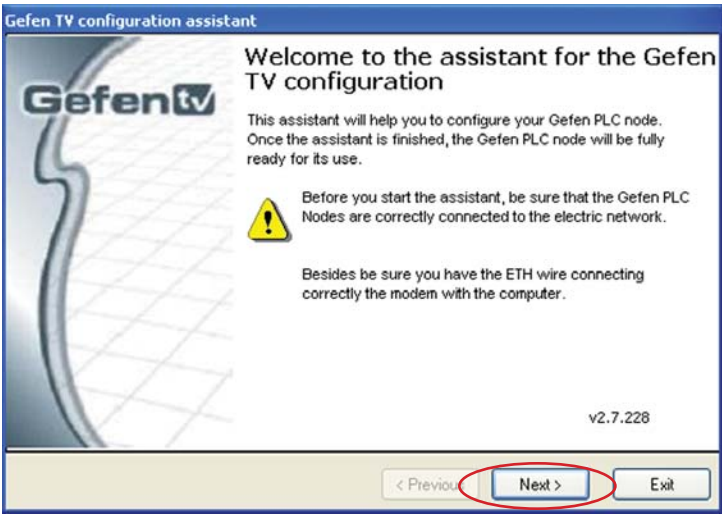
1. Ensure that both the local and remote nodes are powered and are properly linked.

2. Confirm that the computer with the installed GefenTV Ethernet Over Coax software is connected to the local node.

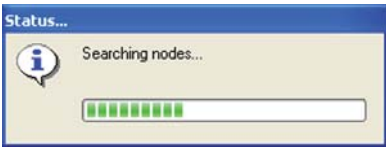
3. Start the **Gefen TV Config Tool** from this location:

Start Menu \ All Programs \ GefenTV Ethernet Over Coax \ Gefen TV Config Tool

4. The introduction screen should appear as the image below. Click on the next button to continue.


Gefen TV configuration assistant
Gefen tv
Welcome to the assistant for the Gefen TV configuration
This assistant will help you to configure your Gefen PLC node. Once the assistant is finished, the Gefen PLC node will be fully ready for its use.
Before you start the assistant, be sure that the Gefen PLC Nodes are correctly connected to the electric network.
Besides be sure you have the ETH wire connecting correctly the modem with the computer.
v2.7.228
< Previous
Next >
Exit

5. The program will begin to search for all connected nodes.



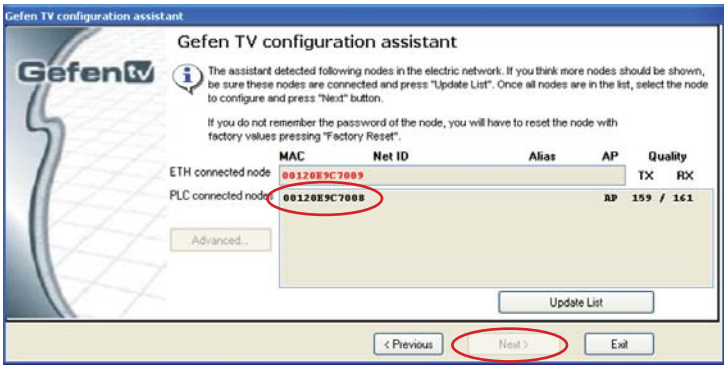
6. Once all possible nodes have been detected, the program will display all of these nodes as in the window below.

Gefen TV configuration assistant
Gefen TV configuration assistant
The assistant detected following nodes in the electric network. If you think more nodes should be shown, be sure these nodes are connected and press "Update List". Once all nodes are in the list, select the node to configure and press "Next" button.
If you do not remember the password of the node, you will have to reset the node with factory values pressing "Factory Reset".
MAC
Net ID
Alias
AP
Quality
TX
RX
ETH connected node
00120E9C7009
PLC connected nodes
00120E9C7008
AP
159 / 161
Advanced...
Update List
< Previous
Next >
Exit

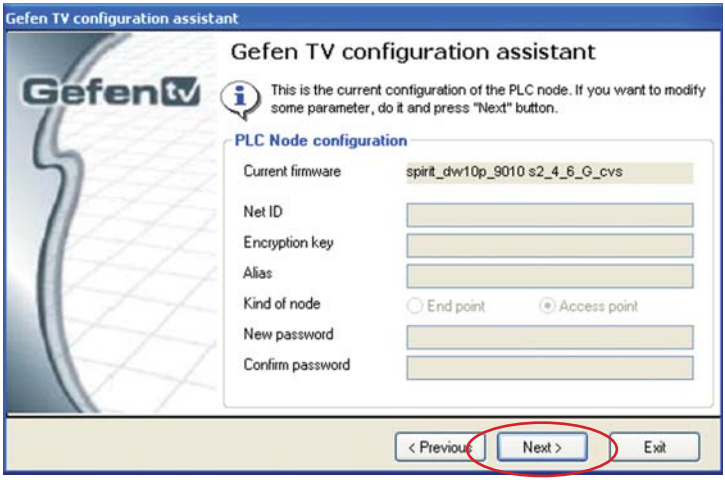
The local node that the computer is connected to will appear as the “ETH connected node”. All remote nodes will be listed as “PLC connected nodes”.

NOTE: Both the local and remote nodes must use the same Net ID and encryption passwords for proper operation. These will be configured in the next step. However, it is important to configure the remote nodes first. If the local node is configured first, all remote nodes will become inaccessible and will have to be removed from their locations and physically connected to the computer, where they can be configured to match the local node’s settings.

7. To begin configuration, click on the mac address of the remote node (PLC connected node) and then click on the next button.


Gefen TV configuration assistant
Gefen TV configuration assistant
The assistant detected following nodes in the electric network. If you think more nodes should be shown, be sure these nodes are connected and press "Update List". Once all nodes are in the list, select the node to configure and press "Next" button.
If you do not remember the password of the node, you will have to reset the node with factory values pressing "Factory Reset".
MAC
Net ID
Alias
AP
Quality
TX
RX
ETH connected node
00120E9C7009
PLC connected node
00120E9C7008
AP
159 / 161
Advanced...
Update List
< Previous
Next >
Exit

8.



The PLC node configuration screen is separated into the following items:

NET ID
This is the name of the network. This name must be the same for both the local and remote nodes for proper operation. The NET ID can be an ASCII string up to 20 characters long.

ENCRYPTION KEY
This is the password needed for network authentication by all nodes. If you wish to set an encryption key, please set the NET ID first. The password can be an ASCII string up to 24 characters long.

ALIAS
This name is for easy identification of the node. This can be an ASCII string of up to 10 characters long. This field is optional.

NEW PASSWORD (CONFIGURATION PASSWORD)
This is to set the configuration password. If a new password is set here, the configuration tool will ask for it every time you access the node. The default password is “paterna”. This field is optional.

CONFIRM PASSWORD
The password entered into the new password listing above must also be entered here. This is for confirmation purposes.

Enter the Net ID, encryption key, and alias into the corresponding fields. Once these fields are completed, click on the next button to continue.

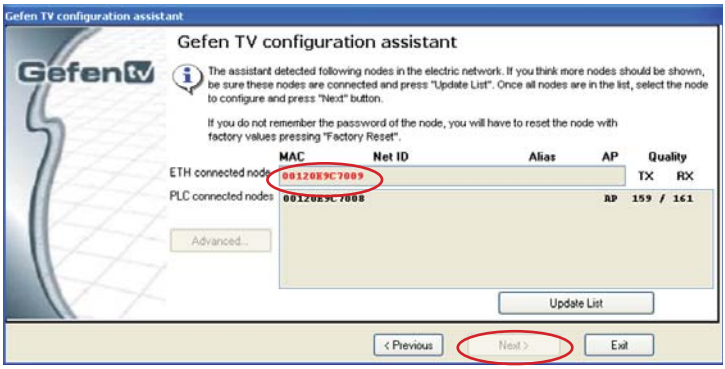
9. Once the update is complete, a message will appear to indicate the update was successful. Click on the ok button to continue.

10. Once the update to the remote node is complete, you will be presented with a window that will give the option to either return to the main configuration window or continue with advanced configuration.

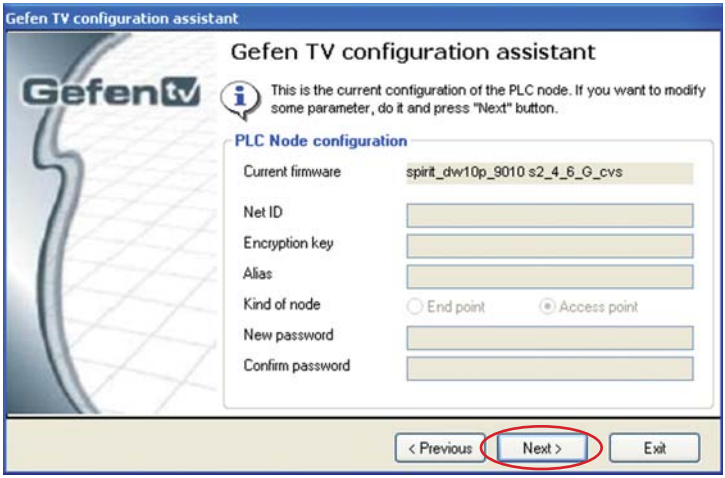
Gefen TV configuration assistant
Gefen TV configuration assistant
Gefen TV Config Tool v2.7.228
PLC node configuration completed successfully.
PLC node is now ready to use.
Please, press "Next" to keep configurating nodes.
Press "Advanced" for advanced operations.
Advanced...
< Previous
Next >
Exit

For basic usage, it will not be necessary to continue to the advanced configuration. For advanced options, please see the **ADVANCED CONFIGURATION** section on page 19. To continue with the basic configuration, click on the next button.

11. Once the configuration for the remote node is complete, the local node will then have to be configured. Click on the local node which is labeled as the “ETH connected node” and press next to continue.


Gefen TV configuration assistant
Gefen TV configuration assistant
The assistant detected following nodes in the electric network. If you think more nodes should be shown, be sure these nodes are connected and press "Update List". Once all nodes are in the list, select the node to configure and press "Next" button.
If you do not remember the password of the node, you will have to reset the node with factory values pressing "Factory Reset".
MAC
Net ID
Alias
AP
Quality
TX
RX
ETH connected node
00120E9C7009
PLC connected nodes
00120E9C7008
AP
159 / 161
Advanced...
Update List
< Previous
Next >
Exit

12. Using the same Net ID and encryption key from the remote node, input the same information into the corresponding fields for the local node. The Alias field should be set to a different name as the remote node for easy identification.



Once the information has been input, click on the next button to continue. A confirmation window will appear once the update is complete. The same window in step 10 will appear with the option to continue with the advanced configuration. It is not necessary to continue with the advanced configuration for basic operation. Click on the next button to return to the main configuration window and exit the configuration tool by clicking on the exit button.

AUTOMATIC SECURITY CONFIGURATION FEATURE

To quickly setup the Gefen TV Ethernet Over Coaxial for secure use, the Automatic Security Configuration Mode (ASCM) can be activated on each node. Follow the below steps to automatically setup a secure connection between multiple nodes.

It is important to understand these concepts before proceeding with the Automatic Security Configuration.

- Master Node (Fixed Access Point) - The Master node is the unit that all of the Slave nodes use to copy the Net ID and Encryption Key from. Because all of the nodes on a network need to have the same Net ID and encryption key to operate properly together, there needs to be a single Master node that stores the information that all other Slave nodes will use to properly configure themselves. A Master node is indicated by its Power LED glowing a solid RED color. It is recommended to have only one Master node on the coaxial network.

- Slave Node (Normal) - A node in this mode will be indicated by its Power LED glowing a solid Blue color. Multiple Slave nodes can be on the same coaxial network.

- Automatic Security Configuration Mode (ASCM) - This mode is initialized by pressing and holding the Security/Reset button on the front panel for approximately 2 seconds. Once the node's Power LED begins flashing RED, release the button. This mode lasts for approximately 30 seconds and will return to normal operation after this time period.

- Both the Master and Slave nodes must be in ASCM for the automatic procedure to complete successfully.

- When a Slave node initializes ASCM, it will first attempt to find a Master node in ASCM. If a Master node in ASCM is not found, it will assume the role of the Master node. To avoid accidentally setting a Slave node as a Master node, make sure that the Master node is in ASCM when activating a Slave's ASCM.

- Any Slave node that assumes the role of a Master node will automatically have a random ASCII Net ID and Encryption Key generated.

- Connect the computer with the installed Gefen TV Config Tool software to the node that you wish to initially set as the Master node.

- If a node is connected to media server or router, it is recommended that this node be set as the Master node for increased performance.

Please refer to the next page for step by step instructions on how to activate the Automatic Security Configuration feature for the Gefen TV Ethernet Over Coax nodes.

AUTOMATIC SECURITY CONFIGURATION

1. Connect the computer with the installed Gefen TV software to the node you wish to set as the Master node.

2. Press and hold the Security/Reset button on the node (ASCM), located on the front panel, for approximately 2 seconds. The Power LED should begin to flash RED, then release the button.

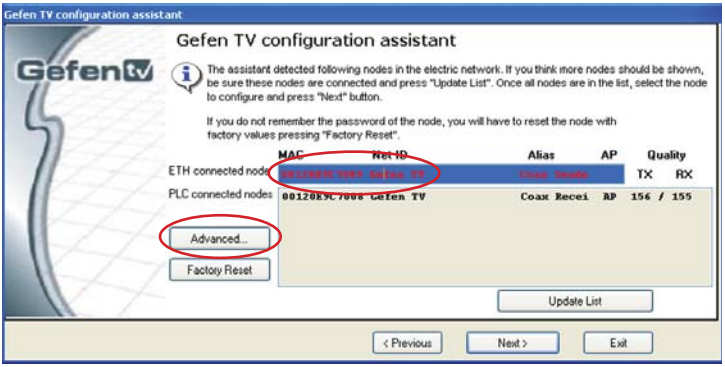
3. After approximately 30 seconds, the Power LED should stop flashing and glow solid RED. This indicates that it is now a Master node. If this node was a Slave node (normal node) before this process, it will now have a randomly generated ASCII Net ID and Encryption Key set.

4. Open the Gefen TV Config Tool (page 12). There should be a random ASCII value as the Net ID. If you wish to use this Net ID for the other Slave nodes, proceed to step 5. Otherwise, you can now set your own Net ID and encryption password which will be applied to all of the Slave nodes in the next step. To do this, click on the local “ETH connected node” MAC address and press the next button. Change only the Net ID and encryption password fields and click on the next button. Once the local node has been updated, proceed to step 5.

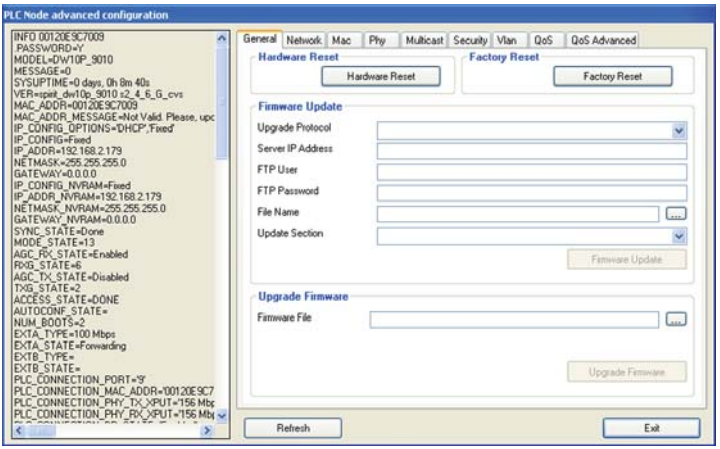
5. For this step to complete successfully, both the Master and Slave nodes have to be in ASCM. To do this, press and hold the Security/Reset button on the Master node for approximately 2 seconds. The Power LED should begin flashing RED. Within 30 seconds, press and hold the Security/Reset button on the Slave node(s) for 2 seconds to enter ASCM. The Slave node’s Power LED should also begin to flash while it receives the Net ID and Encryption Key information from the Master node. Once the Power LED on both the Master and Slave nodes stop flashing and glow solid, the setup will be complete. Check this by opening the Gefen TV Config Tool and seeing that all nodes have the same Net ID.

NOTE: If the Slave nodes are located at a great distance from the Master node, it is recommended that Step 5 be repeated for each Slave node separately. The window that each device remains in ASCM is only 30 seconds, and it may not be possible to put all Slave nodes in the ASCM within the time frame. It is also possible to temporarily relocate the Slave nodes to a coaxial port closer to the Master node for this configuration process, and then move them to their permanent location after this process is complete. If a Slave node is accidentally set as a Master node, you can hard reset the node by pressing and holding the Security/Reset button for approximately 10 seconds. This will revert the node to a Slave node and reset all internal configurations to factory settings.

There are optional advanced settings that can be configured for each node. The advanced menu can be accessed directly through the main configuration page. Click on the MAC address of the node you wish to configure and click on the advanced button to the left of the node listing.


Gefen TV configuration assistant
Gefen TV configuration assistant
The assistant detected following nodes in the electric network. If you think more nodes should be shown, be sure these nodes are connected and press "Update List". Once all nodes are in the list, select the node to configure and press "Next" button.
If you do not remember the password of the node, you will have to reset the node with factory values pressing "Factory Reset".
MAC
Net ID
Alias
AP
Quality
TX
RX
ETH connected node
PLC connected nodes
00120E9C7008 Gefen TV
Coax Recei
AP
156 / 155
Advanced...
Factory Reset
Update List
< Previous
Next >
Exit

GENERAL



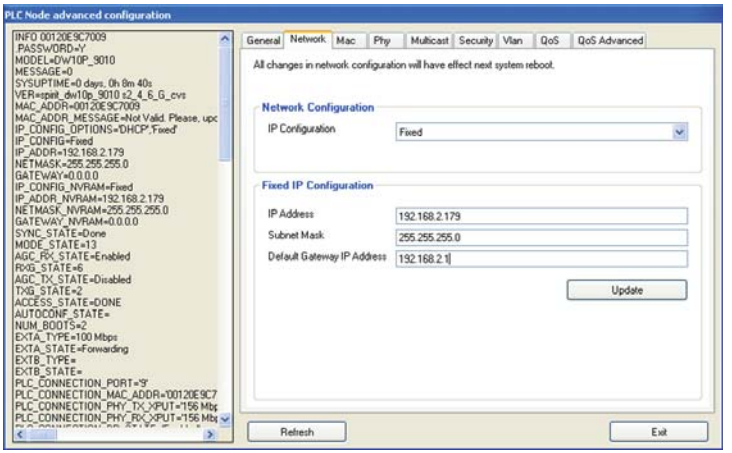
Hardware Reset
This will reboot the node. Settings made in this menu will be applied once the node is restarted.

Factory Reset
This will return the node to factory default settings. A password is required to complete this operation. The default password is “betera”. This has the same effect as pressing and holding the Securty/Reset button on the front panel for approximately 10 seconds.

Firmware Update
This section is used to update the node's firmware from a server location. Please see the Firmware Update section on page 27 for full details.

Upgrade Firmware
This section is used to update the node's firmware from a file. Please see the Firmware Update section on page 27 for full details.

NETWORK



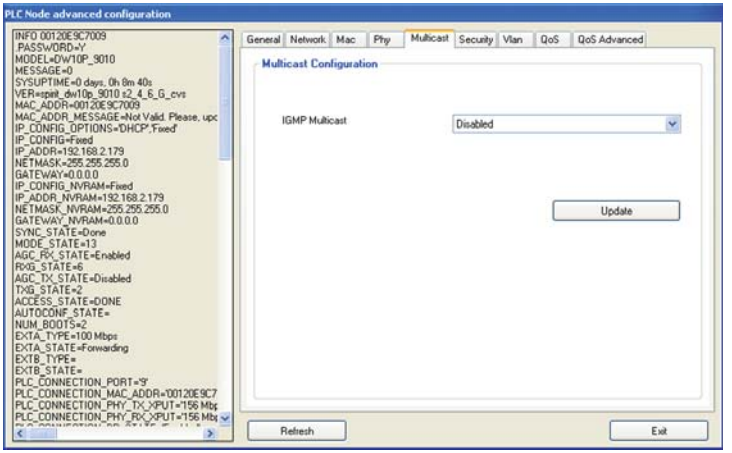
IP Configuration
For access to the node's web configuration tool an IP address must be assigned. Options are:

Fixed - Manually assigned IP address
DHCP - IP assigned by the networks DHCP server

Fixed IP Configuration
Assign an IP address, subnet mask, and default gateway for web tool access.

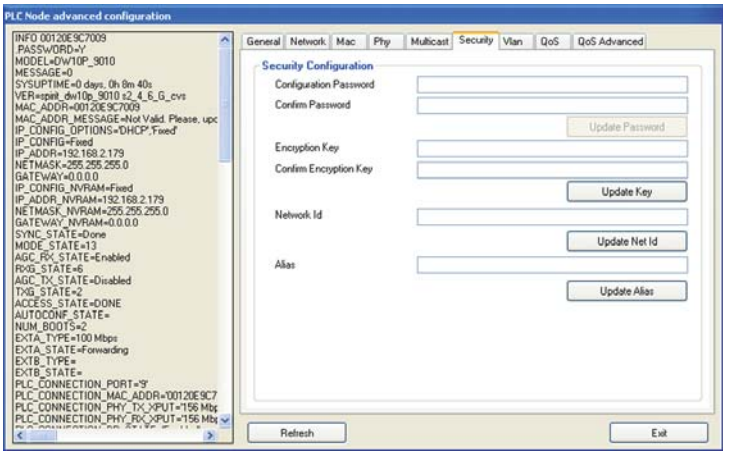
Click on the Update button to apply settings made in this tab.

MULTICAST



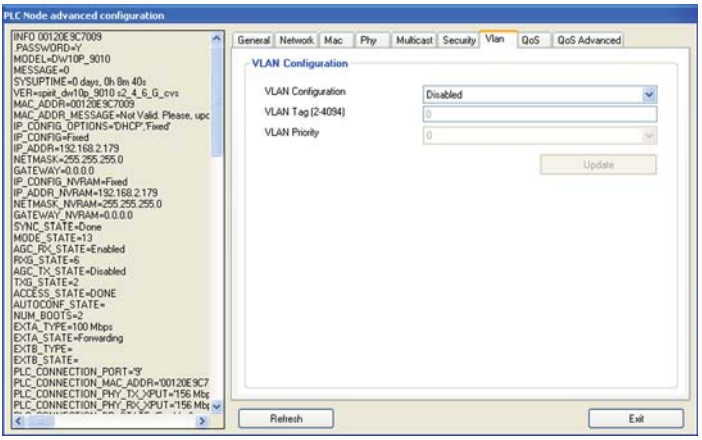
IGMP Multicast
This option will enable or disable the node's ability to transmit IGMP multicast data.

SECURITY



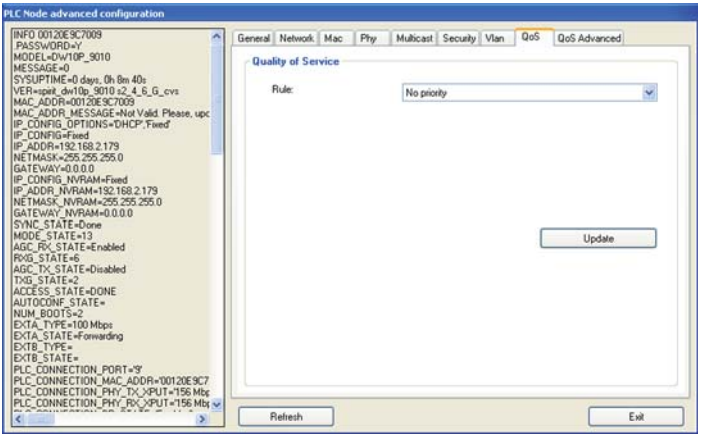
The security tab will allow the user to adjust the configuration password, the encryption password, the network ID, and the alias for the node. For a detailed description of each of these options, please see page 14.

VLAN



This option will enable or disable the node's ability to accept VLAN data. If this feature is enabled on one of the nodes, it must be set on all other for VLAN tag packets to pass.

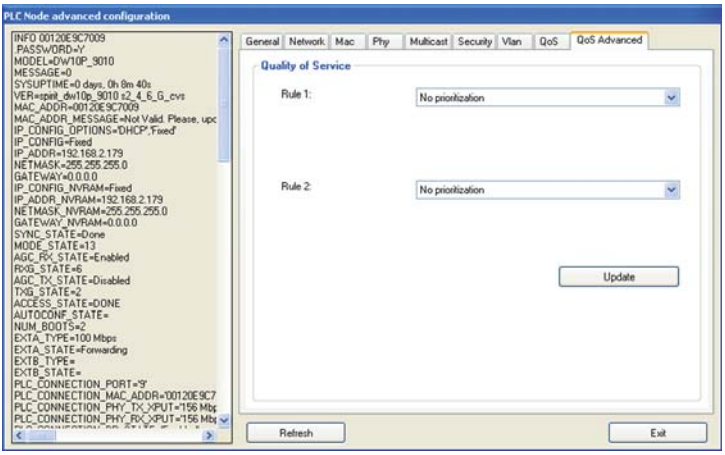
QOS



QOS (quality of service) is supported for managing traffic between nodes. The supported protocols are:

1. TCP port priority
2. UDP port priority
3. 802.1p
4. TOS (RFC 1122)
5. DSCP (RFC 2475)
6. No Priority

ADAVANCED QOS



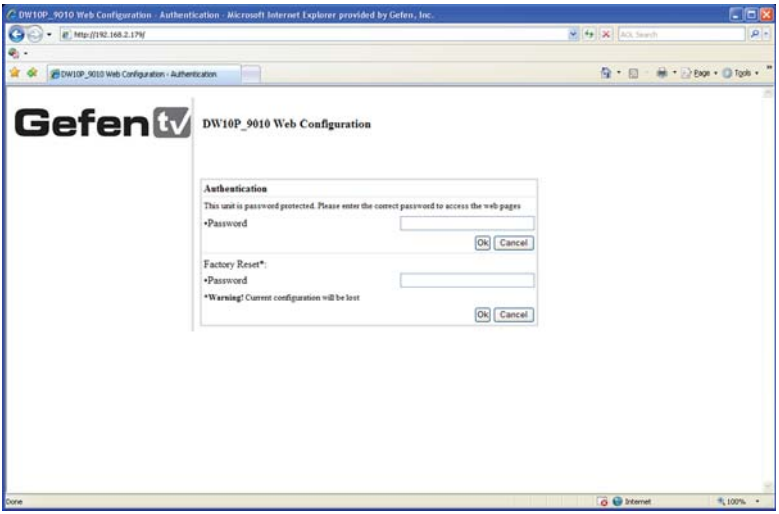
QOS (quality of service) prioritization. Rule 1 will be applied to all packets first and then Rule 2. Prioritization protocols are:

1. UDP is high priority, TCP is low priority
2. TCP is high priority, UDP is low priority
3. UDP port XXXX is high priority, the rest is low priority
4. UDP port XXXX is low priority, the rest is high priority
5. TCP port XXXX is high priority, the rest is low priority
6. TCP port XXXX is low priority, the rest is high priority
7. Use 802.1p prioritization
8. No prioritization

If an IP address has been set in the **ADVANCE CONFIGURATION PANEL**, access to the **WEB UTILITY** will be enabled. To access the **WEB UTILITY**, open your web browser and type the ip address into the address field. The IP address is dependant on the IP Configuration Setting assigned on page 20. The IP address can either be assigned by the DHCP server or a static IP address can be manually assigned.

AUTHENTICATION

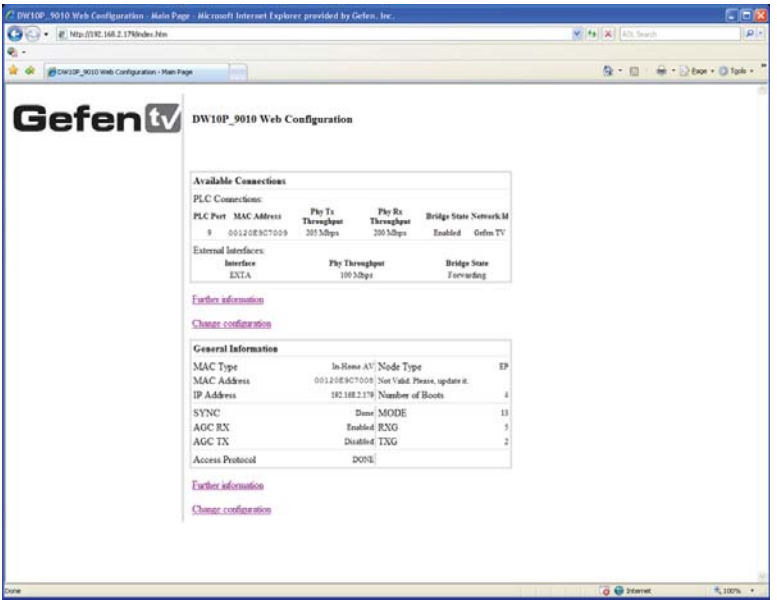
The browser should open the authentication page displayed below.



Authentication
To enter the **WEB UTILITY**, enter the configuration password. The default password is “paterna” unless modified during the setup stage on page 14.

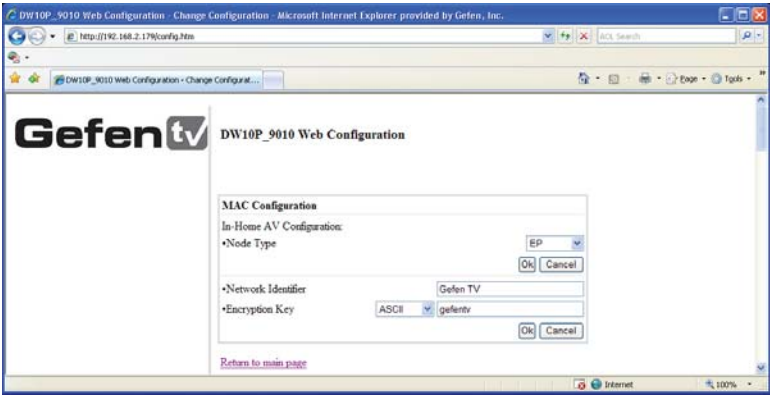
Factory Reset
The unit can be reset to factory settings from this menu. Enter the factory reset password. The default password is “betera”.

MAIN PAGE



The main page will display general configuration information. Clicking on the further information link will navigate to a new page with all the current configuration information (see page 26). Clicking on the change configuration link will navigate to a new page where all configuration options will be available for adjustment (see below).

WEB CONFIGURATION



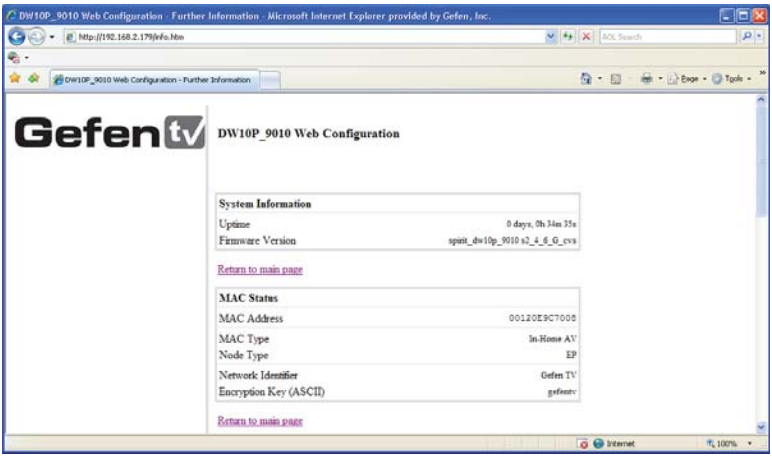
This page will allow the user to adjust all options that are available just as in the **ADVANCED CONFIGURATION PANEL** in the **GEFENTV CONFIG TOOL**.

The configuration options are as follows:

MAC Configuration
Network Configuration
Multicast Configuration
VLAN Configuration
Priority Configuration (QOS)
Security Configuration
Hardware Reset
Flash Upgrade

Please refer to the **ADVANCED CONFIGURATION** section, starting on page 19, for information on the above categories. Going back to the main page can be done by clicking on any of the *Return to main page* links.

FURTHER INFORMATION



This page will display all of the information and status of the current node. The following sections are listed:

System Information
MAC Status
Network Status
PHY Status
Multicast Status
VLAN Status
Priority Status
Security Status

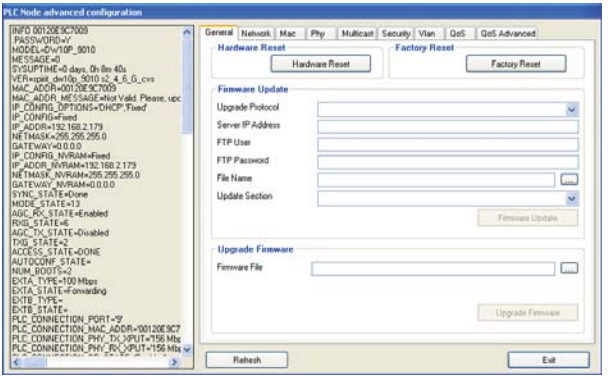
Information on this page is not configurable. If you wish to make adjustments to any of these categories, return to the main menu by clicking on any of the *Return to main page* links on the page. Then click on the *Change configuration* link which is also available on the main page.

FIRMWARE UPDATE PROCEDURE

The firmware for the GefenTV Ethernet Over Coax can be updated by FTP, TFTP, or a direct file. The firmware update can be executed from either the **ADVANCED CONFIGURATION PANEL**, or the **WEB UTILITY**.

UPDATE VIA THE ADVANCED CONFIGURATION PANEL

Firmware updates can be accomplished from the General tab in the **ADVANCED CONFIGURATION PANEL**. See page 19 for instructions on how to enter the **ADVANCED CONFIGURATION PANEL**.



Upgrade Via FTP or TFTP

1. Select the update protocol. Either FTP or TFTP
2. Enter the server IP address
3. Enter the user name and password
4. Enter the name of the file (if the file is not in the root directory of the TFTP or FTP directory, you have to write the whole route from root server directory)
5. Select which section you would like to update (Firmware, Loader or Factory Settings)
6. Click on the firmware update button

Upgrade Via File

1. Use the browse button to the right of the firmware file window and select the firmware update file. You can also manually type the full path to the firmware file
2. Click on the upgrade firmware button

NOTE: This procedure is the same using the web utility. The web update section is located in the change configuration settings, which is accessible from the main page.

SPECIFICATIONS

Standard Support ..... UPA DHS (200 Mbps) PLC

Interface ..... One Power Line port / One coaxial port / 4 Ethernet 10/100M Ports

Security ..... 3DES 168 bits encryption

Power ..... AC 100~240V / 50~60Hz / 0.15A

Power Consumption ..... 8W/230V Max & 7W/110V Max

Operating Temp ..... 0~40ºC (32~104ºF)

Operating Humidity ..... 10%~90% non-condensing

Storage Temp Range ..... -20~70ºC (-4~158ºF)

Storage Humidity ..... 5%~95% non-condensing

Storage Altitude ..... Sea level to 40,000 feet

Certifications ..... FCC Part 15, Part B, Class B, CE Class B

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, please visit Gefen's Warranty web page at http://www.gefen.com/kvm/aboutus/warranty.jsp

PRODUCT REGISTRATION

Please register your product online by visiting Gefen's web site at http://www.gefen.com/kvm/Registry/Registration.jsp

Rev X2

20600 Nordhoff St., Chatsworth CA 91311

1-800-545-6900 818-772-9100 fax: 818-772-9120

www.gefentv.com support@gefentv.com